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What Works in School Meals?

Policy lessons from school meal programmes in Brazil and New Zealand

Abstract

The Ka Ora, Ka Ako Healthy School Lunches programme has been operating for six years, feeding one quarter of New Zealand's students, with demonstrated early success; however, its future is not guaranteed. Brazil's National School Feeding Programme represents one of the largest and longest-standing food provision initiatives in the world, currently feeding all students enrolled

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in public schools, and has seen massive success in lifting children out of malnutrition; national food insecurity rates are now lower than New Zealand's. This study applied a policy analysis framework to compare the two programmes in terms of their content, actors, process and implementation context to distil key insights for New Zealand regarding building programme sustainability and legitimacy. We discuss how these two programmes evolved from different societal and governmental values, highlight mutual lessons to be learned, and provide insights for other school meal programmes worldwide.

Keywords school food, food policy, education, food systems, equity, public health

School meal programmes have been identified as one of the world’s largest social safety nets, considered essential for education, health and wellbeing, especially when mandatory and universal (Bedasso and Bundy, 2025). Evidence shows that they can reduce food insecurity and improve diet quality among students, as well as school attendance and educational performance (Forrestal et al., 2021; Smith, Lin and Guthrie, 2024; Wang et al., 2021). Internationally, school meal programmes are also one of the recognised priorities to improve the development of more resilient, sustainable and equitable food systems (Bandoni et al., 2024; Cohen et al., 2023; Rockström et al., 2025; United Nations Food Systems Coalitions, 2025).

The second largest school meal programme in the world is Brazil’s National School Feeding Programme (Programa Nacional de Alimentação Escolar – PNAE) (World Food Programme, 2025). PNAE has a 70-year history and, in 2023, provided school meals to more than 39 million students (FNDE, 2025a). In Brazil it is considered one of the most enduring and societally embedded public policies (Peixinho, 2013). Internationally, PNAE represents a benchmark for strong leadership and political stability, with notable commitments to providing universal free school meals to all students in public schools and purchasing food from local family farms (Brasil, 2009; McKerchar et al., 2021; World Food Programme, 2025).

Aotearoa New Zealand also has a school meal programme, a more recent one, which began in 2019 as a pilot programme and was expanded in 2020 to reach all students

in primary and secondary schools in the highest quartile of disadvantage. The Ka Ora, Ka Ako Healthy School Lunches programme is New Zealand’s largest investment in children’s nutrition to date, serving approximately 242,000 students (Ministry of Education and Social Wellbeing Committee, 2019; Ministry of Education, 2021). Its short history has been marked by uncertainty, with major changes in implementation methods and a substantial decrease in government investment in 2025 (Chote et al., 2022; Garton et al., 2023; Ministry of Education, 2024a).

As complex social policies created and maintained by the state, the two programmes have different characteristics and historical-political contexts (Penteado and Fortunato, 2015; World Food Programme, 2025). In 70 years, Brazil has made substantial progress in lifting children out of malnutrition, and national food insecurity rates are now lower than New Zealand’s, as measured by the Food and Agriculture Organisation of the United Nations (FAO, 2025a). PNAE has managed to endure despite major political challenges. Using a health policy analysis framework, this study sought to learn what elements of Brazil’s school meal programme have contributed to its success, and gather insights to support New Zealand’s fledgling programme.

Methods

Study design

This qualitative retrospective study involved a literature review and documentary analysis of the school meal programmes in Brazil and New

Zealand. Official policy documents were analysed, and, based on these, a survey was conducted of articles that could contribute to filling the information gaps identified by the review. Data was collected from June to September 2025. The team conducting the analysis comprised PNAE insiders (nutritionists at a secondary school in São Paulo and a senior official for the programme federally), and public health nutrition experts who have been involved in evaluating Ka Ora, Ka Ako since 2021.

Theoretical framework

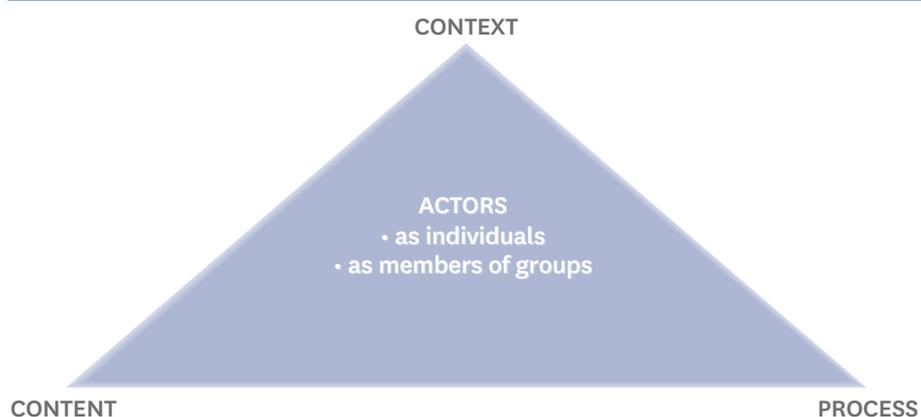
Data analysis was based on Walt and Gilson’s triangle framework for health policy analysis, which takes a multidisciplinary approach to public policy and seeks to explain the interaction between institutions, interests and ideas in the political process. The model facilitates a comprehensive understanding of how policies were formulated, implemented and evaluated, considering political, social, economic and cultural factors, as well as identifying the role of the various actors involved and the changes that occurred in policy implementation through the analysis of four components – content, context, actors and the process – as shown in Figure 1.

For this study, we created sub-components for three of the four elements based on the authors’ knowledge of school food programmes. The sub-components created within ‘content’ were objective, guidelines, nutrient standards and budget. The ‘actors’ component was subdivided into stakeholders, people of interest, executors, providers, beneficiaries and civil society. The ‘process’ component was divided into programme evolution, management, monitoring and evaluation.

Document review and data analysis

A literature review was conducted to gather comprehensive information on both policies. This included a document review of the two policies and the main statements, policies and regulations in force and their amendments. These documents were collected from official government websites. This was complemented by a targeted review of scientific articles sourced from Scielo, Google Scholar and the University of Auckland Library, to fill

Figure 1: Framework model for health policy analysis.



Source: Walt and Gilson, 1994

any gaps in the specified framework. This literature was identified based on the researchers' knowledge and using targeted keyword searches. Table 1 presents all the documents included.

The information was deductively coded according to the framework and sub-components using the Taguette tool for qualitative data analysis, and then organised into Excel tables for better visualisation.

The analysis included 39 documents. Of these, 15 were related to data from Brazil and 24 were from New Zealand. Table 1 lists the analysed documents.

The main findings pertaining to the components of the health policy triangle are presented below, beginning with a brief overview of each policy context. A summary of the programme components is provided in the Appendix.

Results

Context

Brazil

The development of public policies for food and nutritional security in Brazil was driven by an historical context of hunger and malnutrition (Leão and Maluf, 2012). For instance, in 1990 in Brazil, according to the Global Burden of Disease study, 7.78% of the disability-adjusted life years (DALYs) reported were due to child growth failure (which includes the conditions of underweight, wasting and stunting, for children of all ages). In 2021 this figure decreased to 0.33%. However, the percentage of DALYs attributed to overweight individuals, in the overall population, in 1990 was 3.34%, and by 2021 it had risen to 6.04% (Institute for Health Metrics and Evaluation, 2024).

The first policy actions that recognised hunger as a serious public health problem were taken in the 1930s. In 1940, the Social Security Food Service was created, aimed at improving the eating habits of Brazilian workers; this can be considered the country's first public food policy (Peixinho, 2013). In the 1950s a national food and nutrition plan was drawn up, under the title 'Food Situation and the Nutrition Problem in Brazil', and for the first time a school lunch programme was structured at a national level, under government responsibility (FNDE, 2023). Josué de Castro, a federal deputy, professor, member

Table 1: Documents included in the study analysis

Source	Documents
PNAE website and government documents	Brasil, 2009; FNDE, 2020b, 2025c; Brasil, 2025a; PNAE history; PNAE physical and financial data; Brasil, 2025b; Brazilian Federal Constitution, 1988; Brasil, 2019, 2023; IBGE, 2024
Ka Ora, Ka Ako website and government documents	Ministry of Education and Social Development Committee, 2019; Ministry of Education, 2021; Pilot Evaluation: Vermillion et al., 2021; Vermillion et al., 2022; Ka Ora, Ka Ako Nutrition Standards, 2022; Aikman and Yates-Pahulu, 2023; Ministry of Education, 2023, 2024a, 2024b, 2024c; funding agreement; partnership agreement; Ministry of Business, Innovation and Employment, 2025
Academic databases	<i>Brazil: Peixinho, 2013; Vasconcelos, 2005</i> <i>New Zealand: Ministry of Health, 2003; Poata-Smith, 2013; Wynd and O'Brien, 2014; O'Brien, 2014; Brown, 2018; D'Souza, Vandevijvere and Swinburn, 2022; Watts, 2023; Roy, Mackay, 2023; PHAC, 2024</i> <i>Brazil and New Zealand: FAO Hunger Map, 2025; Institute for Health Metrics and Evaluation, 2025</i>

of the FAO and diplomat, had an important role in raising national awareness of the problem of hunger and poverty and promoting projects to fight hunger (Peixinho, 2013).

The next decades were marked by the military dictatorship in Brazil (1964–85), with the suspension of civil and political rights. During this period, the success of public policy actions was heavily compromised, but despite this, PNAE continued to exist (Vasconcelos, 2005).

In 1988 the Federal Constitution was promulgated, with important participation of social movements, at a time of political opening up towards democracy. After this period, social priorities were focused on the country's economic stabilisation. The first attempts to implement neoliberal ideas of state reform occurred, within the discourse of modernisation of the country, which led to a brutal reduction in financial resources and the end of some of the existing food and nutrition programmes. PNAE, however, was not included in these policy cuts (Vasconcelos, 2005; Peixinho, 2013).

Scaled-up efforts to fight hunger in Brazil started from the 2000s within the Lula government. The Zero Hunger strategy was implemented, which recognised that hunger was a social problem. This strategy integrated various programmes and policies related to social assistance, income transfer and structural actions, including job and income generation, agrarian reform and others (Peixinho, 2013).

In 2003 the National Food Security Council (CONSEA) was established, comprised of representatives of the government and civil society, with an advisory role in the implementation of food and nutrition security policies. In 2006 the federal government enacted the Organic Law on Food and Nutritional Security, one of the major legal frameworks for structuring food and nutritional security in the country, with the aim of guaranteeing the human right to adequate food for all Brazilians (ibid.; Vasconcelos, 2005).

The country has progressively accepted the concept of adequate food as a human right, and in 2010 it was included in the Federal Constitution. In 2014, the second edition of the *Guia Alimentar para a População Brasileira* (Food Guide for the Brazilian Population) was published by the Ministry of Health (Brasil, 2014). These guidelines recommend that adequate and healthy diets are based on the consumption of natural or minimally processed foods, with the consumption of processed foods being limited and the consumption of ultra-processed foods being avoided).

In January 2023 the Lula government re-established the CONSEA with significant civil society participation, after it was cut by the 2019–22 Bolsonaro government. Currently, the main Brazilian policy framework for food and nutrition security is the *III Plano Nacional de Segurança Alimentar e Nutricional (2024–2027)* (National Plan for Food and Nutrition Security) (Brasil, 2025b). This is an

intersectoral plan which brings together various sectors of government and civil society and establishes goals and strategies to ensure the human right to adequate food in the country.

Despite the concerted efforts to fight hunger, and notable success, Brazil has not been immune to the shocks and pressures on the global food system and international political economy of recent years, such as the Covid-19 pandemic. According to the FAO Hunger Map, in 2024, 13.5% of the Brazilian population was in a situation of moderate or severe food insecurity (FAO, 2025a).

The prevalence of food insecurity in New Zealand in 2024 was higher than that in Brazil; according to the FAO Hunger Map, 17.3% of the New Zealand population was experiencing moderate or severe food insecurity.

New Zealand

New Zealand is a high-income nation that has enjoyed relatively low levels of acute hunger and malnutrition at the population level, but national statistics mask a legacy of inequities brought about by its colonial past and more recent implementation of neoliberal economic policies (Institute for Health Metrics and Evaluation, 2024; O'Brien, 2014; Poata-Smith, 2013). Despite nutrition problems such as obesity and unhealthy dietary patterns being the biggest contributor to health loss (attributable DALYs), and child food insecurity reaching 27% in 2024, New Zealand lacks a long-term multi-sectoral national food and nutrition strategy that provides guidance for developing policies to improve nutrition and health equity in the country (Ministry of Health, 2003; Roy and Mackay, 2023; Public Health Advisory Committee, 2024).

Hunger and malnutrition are experienced differently in New Zealand than in Brazil. According to the Global Burden of Disease study, in 1990 only 0.15% of DALYs reported for New Zealand

were related to child growth failure, and by 2021 the figure fallen to 0.034%. Conversely, the proportion of overweight individuals in the overall population in 1990 was 5.85%, and this had increased to 7.57% by 2021 (Institute for Health Metrics and Evaluation, 2024).

One of the first people charged with developing and implementing public nutrition policy in the country was Dr Muriel Bell. In 1940 she was appointed the first state nutritionist of the New Zealand Department of Health, a position she held until 1964. At that time, researchers were concerned about the low dietary

consumption of energy, calcium, phosphorus and iron. Bell increased scientific and popular knowledge of nutrition and radically improved the standard of nutrition in New Zealand by promoting programmes such as the distribution of milk in schools, iodisation of table salt, and dissemination of advice on healthy eating (Brown, 2018).

The 1950s was a period of economic prosperity and deregulatory political reforms. In terms of population diet, this period was marked by the dietary excess that replaced diseases of poverty. In the next decade, public health was shifting and the emphasis changed to individual responsibility for one's own health. This period saw the end of the milk in schools programme.

The period from 1984 to 1999 saw a major shift in New Zealand politics, largely due to successive governments implementing a neoliberal political agenda, particularly in social and economic policies (O'Brien, 2014; Poata-Smith, 2013). There were cuts to existing social benefits, which contributed to a rise in social inequality. In

subsequent decades, increasing concerns were raised about food and nutritional security and hunger among the population. One of the visible consequences was the growth of food banks (O'Brien, 2014).

The subsequent decade (1999–2008), with a Labour-led coalition in government, was a period of greater action to reduce social inequalities. One of the initiatives developed was Healthy Eating Healthy Action, which began in 2003 as an integrated and multi-sectoral approach to addressing nutrition, physical activity and obesity. Some of the policies proposed during this period continue today. An example is Fruit in Schools, which began in 2005 to promote healthy eating and combat the increasing rates of preventable health conditions related to poor nutrition and sedentary lifestyles, and a rising obesity epidemic (Ministry of Health, 2003; Watts, 2023).

In 2012, the Children's Commissioner's Expert Advisory Group on Solutions to Child Poverty recommended that the government give immediate attention to designing and implementing 'a collaborative food-in-schools programme, commencing with lower socioeconomic primary and intermediate schools'. The government's response to this recommendation was the allocation of \$9.5 million over five years to support the provision of food in schools by food manufacturing corporations Fonterra and Sanitarium and charity organisation KidsCan (Wynd and O'Brien, 2014).

In 2019, under Jacinda Ardern's Labour government, pursuing a 'wellbeing' agenda and amidst alarming statistics on child poverty, the programme Ka Ora, Ka Ako started as a pilot. The post-Covid-19 economic recovery plan soon provided a political window of opportunity and funding for its expansion. In its first iteration the programme was designed to be more than a solution to food insecurity, also aiming to improve outcomes for education, health and local economies. The budget for the continuation of the Ka Ora, Ka Ako was maintained until 2023. In early 2024, the new National-led coalition government announced a reduction in the amount that would be invested until 2026; this second version of the programme maintained the food security, health and education

objectives, but not that of supporting local economies. A similar scale of school food provision was maintained for approximately one quarter of students, albeit with a significantly reduced budget (referred to in this paper as version 2 of Education and Social Wellbeing Committee, 2019; Ministry of Education, 2021, 2024c, 2025c).

Currently, there are other food programmes operating in schools and kura, but issues have been raised around sustainability, stigma, variability, and measuring effectiveness (Vermillion et al., 2021; D’Souza, Vandevijvere and Swinburn, 2022; Vermillion et al., 2022; Watts, 2023). Many schools receive no government support for food provision and rely heavily on volunteers and donations, limiting scalability and sustainability (Ministry of Education and Social Wellbeing Committee, 2019). The most common food provision programmes are Fonterra’s Milk for Schools, KickStart Breakfast and Fruit in Schools. Of these, only the Fruit in Schools programme is not supported by private organisations (D’Souza, Vandevijvere and Swinburn, 2022; Watts, 2023).

The prevalence of food insecurity in New Zealand in 2024 was higher than that in Brazil; according to the FAO Hunger Map, 17.3% of the New Zealand population was experiencing moderate or severe food insecurity. This is the highest measured value for New Zealand since 2014, when the survey began (FAO, 2025a).

Actors

The Brazilian and New Zealand school meal programmes have distinct constellations of actors involved. PNAE has a wide array of actors engaged in the programme (Figure 2), which allows it to be maintained as a decentralised and integrated system. This includes policy entrepreneurs who contributed to its initial implementation and its maintenance as a right for all students, such as Josué de Castro and Luis Inácio Lula da Silva. Certain organisations are responsible for the programme design, monitoring and evaluation, such as the presidency of the Republic, the Ministry of Education and the National Fund for Education Development (Fundo Nacional de Desenvolvimento da Educação – FNDE). The Collaborating Centers for School Feeding and Nutrition (Centros Colaboradores em Alimentação

Figure 2: Actors involved with the Brazilian school meal programme

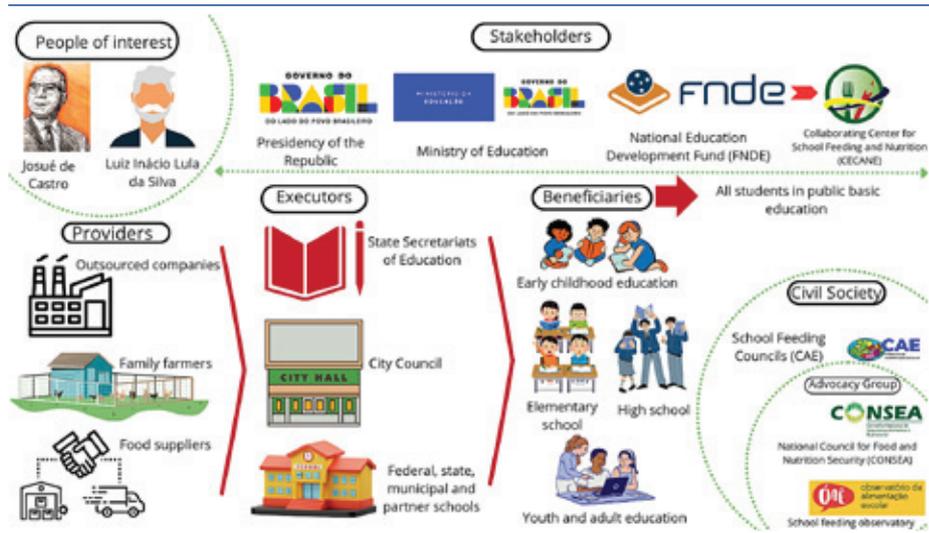
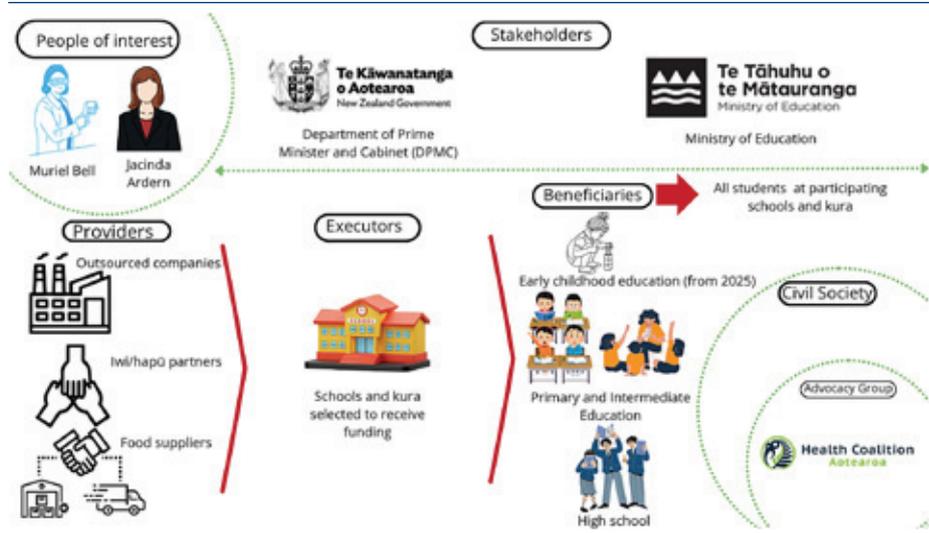


Figure 3: Actors involved with the New Zealand school meal programme



e Nutrição do Escolar – CECANEs) are reference and support units established through a partnership with FNDE and are responsible for offering technical and operational support to PNAE, and contribute to maintaining the decentralisation of the programme.

Besides that, PNAE providers (private outsourced companies, family farmers and private food suppliers) are responsible for guaranteeing the food supply, with family farmers being recognised as fundamental to ensuring the programme’s objectives. The programme is implemented and overseen by different actors from different levels of government, including state and municipal, and federal schools, which are the executing entities responsible for delivering the programme to all students in public schools.

In addition, to guarantee that the programme operates well, PNAE has a

group of civil society actors who voluntarily contribute to its evaluation, advocacy, improvements and maintenance (the School Feeding Council (CAE), CONSEA, the School Feeding Observatory).

In contrast, the Ka Ora, Ka Ako has relatively few organisations, institutions and individuals involved (Figure 3). Ka Ora, Ka Ako is managed by the Ministry of Education with the support of the Department of the Prime Minister and Cabinet. There are some internal school providers; however, under the 2025 version of Ka Ora, Ka Ako, one centralised group of outsourced companies was contracted to supply food for most schools.

Content

Objective

Both programmes aim to address food insecurity and hunger. In the beginning, the goal of Brazil’s programme was to facilitate

access to school meals of higher nutritional value. Later, PNAE expanded the aims to include contributing to the growth and biopsychosocial development, learning, academic performance, and formation of healthy eating habits of students through food and nutritional education and the provision of meals that cover their nutritional needs during the school year. Post-2009, objectives have broadened to create wider ripple effects throughout the food system. Similarly, Ka Ora, Ka Ako version 1 aimed to reduce food insecurity, improve nutrition and health, reduce barriers to education and improve learning outcomes, and stimulate

dietary needs. Both programmes also have similar determinations regarding quality and sanitary hygiene control for the physical structure, production, handling and distribution of food.

Regarding the menus used in the programmes, PNAE requires that they are prepared by dietitians. Every executor has a responsible registered dietitian, with a minimum number of dedicated professionals legally established. The ratio varies depending on the number of schools, students and their location, but in federal schools, for example, one dietitian is required for every 1,000 students. In Ka

Budget

Funding for both programmes must be included in the country's annual budget. However, because PNAE in Brazil is established under federal law, its minimum funding allocation is guaranteed in the annual budget law. To ensure that adequate funds will be available, the federal government uses the resources collected from a corporate tax known as the 'education salary' (salário-educação). Companies pay 2.5% of the total remuneration paid to employees, monthly. This tax is intended to finance public educational initiatives and programmes.

The federal funds received for the PNAE programme are for the purchase of food only, with the state, municipalities and federal schools providing additional funding for implementation.

For Ka Ora, Ka Ako, the funding comes only from the Ministry Education budget and has always been limited to specific periods, with no guarantee of sustained operation. The central government's investment is to cover all the programme-related expenses.

With respect to the amount invested in both programmes per student per day, for PNAE the Brazil federal government pays between R\$0.41 and R\$2.56 (approximately NZ\$0.13 and \$0.83), depending on the length of school day and the type of school. Ka Ora, Ka Ako version 1 paid between \$5.56 and \$8.29 (approximately R\$17.23–R\$25.70), depending on the age of the students and the teaching modality. In Ka Ora, Ka Ako version 2, the amounts were reduced to \$3 (about R\$9.30) for external model schools, with an additional \$0.84 for students aged nine and older, and \$4 (near to R\$12.40) for internal model schools. These figures are, however, not directly comparable as the cost of food and cost of living (relative to income) differ significantly between the two countries.

In terms of the scale of national investment, in 2023 Brazil's GDP was R\$10.9 trillion (Instituto Brasileiro de Geografia e Estatística, 2024), while the decentralised value of federal resources for the PNAE in the same year was R\$5.26 billion, plus what the executing entities could invest (which may be approximately the same amount or more than that invested by the federal government) (FNDE, 2025b; ÓAÊ,

For Ka Ora, Ka Ako, the funding comes only from the Ministry Education budget and has always been limited to specific periods, with no guarantee of sustained operation.

local employment. Since its reduction in investment, Ka Ora Ka Ako (version 2) considerably reduced these aims to reducing food insecurity by providing a daily nutritious lunch to students at schools and kura in need of the greatest support.

Guidelines and nutrient standards

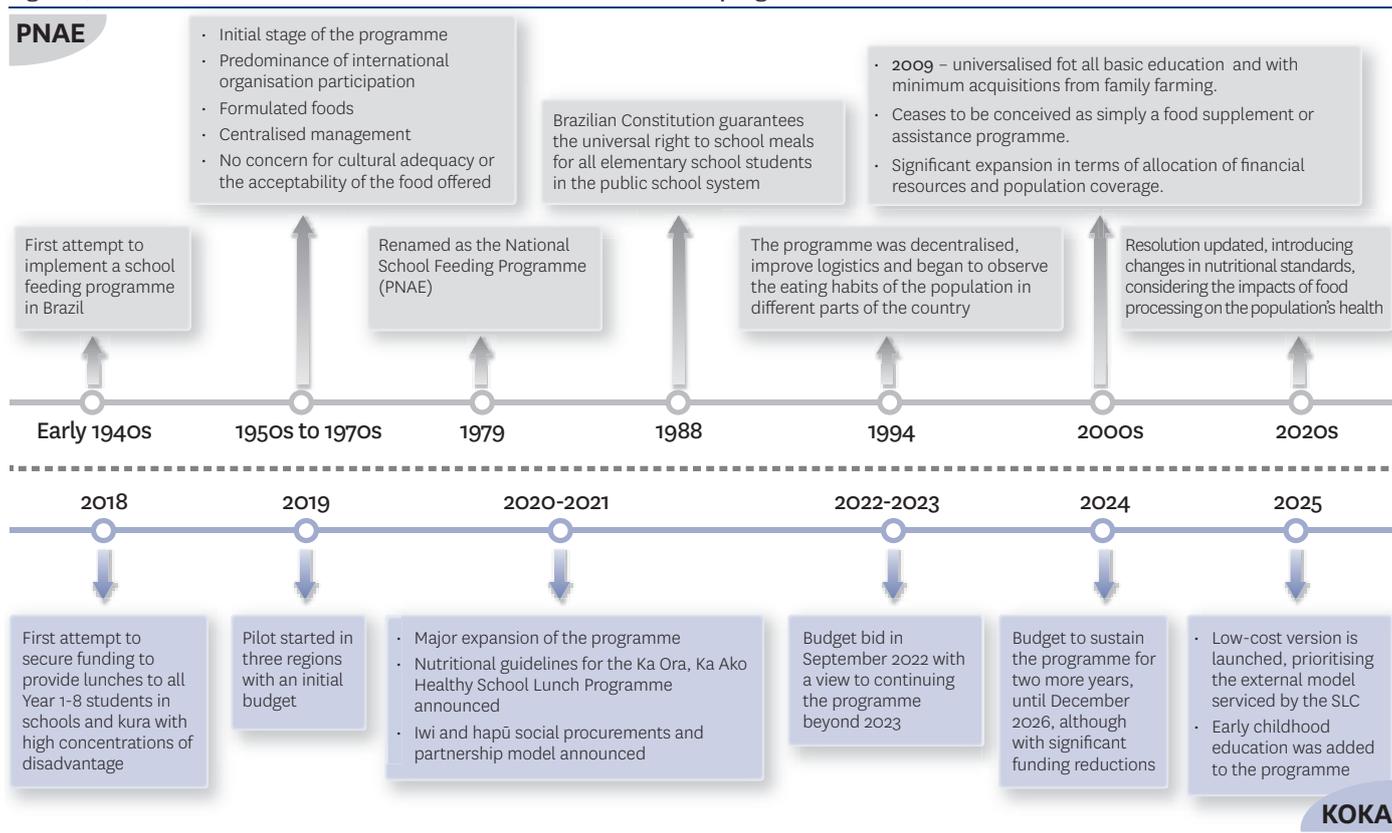
Despite both programmes being labelled as 'universal coverage', there is a key difference in their scope of delivery. In Brazil, all students enrolled in basic public education (from kindergarten and preschool through to high school, including Youth and Adult Education and indigenous and Quilombola schools) have the right to receive school meals. Ka Ora, Ka Ako serves all students in eligible schools according to the school's position in the Ministry of Education's Equity Index. Currently, the lunches reach about 25% of students nationally through this system (Ministry of Education, 2024d).

Both programmes have strong guidelines on food quality, indicating that school meals must consist of safe, nutritious food, respect local culture, traditions and eating habits, and accommodate students with specific

Ora, Ka Ako, under the internal provision model the school is responsible for preparing menus and submitting them for analysis by a small team of nutritionists at the Ministry of Education. In the external provision model, this menu preparation is conducted by an outsourced company, before being checked by the ministry.

Both programmes have structured nutritional standards. However, PNAE requires that the menus meet a certain percentage of the students' daily nutritional needs according to their age (school years) and length of time spent at school, as well as meet specifications regarding the types of foods provided and their level of processing (with limits on the provision of ultra-processed foods). Needs are established according to the average age at each school stage. In New Zealand, meals must meet the criteria for the minimum mandatory items, as well as the weights established per portion for each age group. In addition, there are restrictions on the use of some foods, defined by a traffic light system: the Health Star Rating system is used to set 'green', 'amber' and 'red' criteria for some food categories, based on their nutritional value (Ministry of Education, 2022).

Figure 4: Timelines of the evolution of the Brazilian and New Zealand programmes



FINEDUCA, 2021). Thus, around 0.1% of Brazilian GDP was invested in the programme. In New Zealand in the same year, GDP was \$393.52 billion, while the resource value for Ka Ora, Ka Ako was \$323 million (Ministry of Business, Innovation and Employment, 2025; Ministry of Education, 2024a). Thus, the investment in the first version of Ka Ora, Ka Ako was around 0.08% of New Zealand's GDP.

PNAE establishes criteria for the use of these financial resources. Currently, at least 80% of the total amount must be used for purchasing natural or minimally processed foods, increasing to 85% in 2026; a maximum of 15% is allocated to processed and ultra-processed foods, decreasing to 10% in 2026; and 5% is allocated to culinary ingredients. Another difference is the mandatory purchase of food from local family farms. The minimum amount to be used for purchasing food from family farms in 2025 was 30% of the resources allocated by the government; this will rise to 45% in 2026.

Process

Management

PNAE executors have the autonomy to decide which format to adopt, which can be centralised, decentralised or school-

based management, or semi-decentralised or partially school-based management. In Ka Ora, Ka Ako version 1, schools could choose between external, internal, internal partnership, iwi and hapū, and mixed delivery options. In Ka Ora, Ka Ako version 2, internal models still exist, but the external model with one centralised supplier collective is preferred. In terms of programme management, PNAE has several organisational levels, with the federal government, through FNDE, responsible for regulations, monitoring and evaluation, and the executor entities responsible for the development and guarantee of the policy's execution at the local level. In New Zealand, Ka Ora, Ka Ako is managed solely by the Ministry of Education.

Monitoring and evaluation

The responsibility for PNAE programme monitoring is shared among various stakeholders, such as schools, FNDE, civil society (represented by CAE), and federal government oversight and control entities (the Federal Court of Accounts, comptroller general of the union and Public Prosecutor's Office). Under Ka Ora, Ka Ako, schools are responsible for

submitting implementation information to the Ministry of Education.

As for evaluation, monitoring information for PNAE is compiled by FNDE and made public on the programme's official website, allowing external technical analysis and research to verify whether the programme's objectives are achieved or not, but formal evaluations organised by the government are not carried out. In contrast, in the Ka Ora, Ka Ako programme, the government is responsible for contracting outsourced companies to conduct programme evaluations. Formal evaluations were conducted of the pilot and Ka Ora, Ka Ako 1, but for Ka Ora, Ka Ako 2, a formal monitoring and evaluation plan had not been finalised more than a year after its announcement (Aikman and Yates-Pahulu, 2023; Vermillion et al., 2021; Vermillion et al., 2022).

Programme evolution

Figure 4 shows the historical timelines of the two programmes. The PNAE trajectory began in the 1940s, with the first discussions around the implementation of a school feeding policy in the country. The policy was initiated in 1955, with a centralised programme characterised

by the supply of industrialised (highly processed) products offered through international cooperation.

In 1979 the programme adopted the name it has today, and in 1988, with the promulgation of the Federal Constitution, all elementary school students in public schools in the country gained the right to school meals. In 1994 the programme was decentralised, through agreements with municipalities and state education departments. The number of municipalities which joined the decentralised programme increased to more than 70%; consequently, more students could be served, the distances travelled for food supply were reduced, and there could be better integration of the different food cultures

centralised supply system, which affected the ability to source locally prepared food and engage close-proximity suppliers, menus were standardised of across the entire country, without consideration of local preferences. Ka Ora, Ka Ako version 2 received funding in the 2024 budget to operate until the end of 2026. The future of Ka Ora, Ka Ako from 2027 will be considered by Cabinet (Ministry of Education, 2025c).

Discussion

School meal programmes are recognised globally for their multiple benefits for students, families, schools, society and the environment (Bandoni et al., 2024; Garton et al., 2023; World Food Programme, 2025).

argued, has resulted in increased food insecurity and obesity (Brown, 2018; O'Brien, 2014). Currently, the prevalence of childhood (2–14 years) obesity in New Zealand is 12.5%, and 27% of children live in households with moderate to severe food insecurity (Ministry of Health, 2003; UNICEF, 2025). Historically, the country has relied upon charities and private companies to try to fill the gap of food insecurity (D'Souza, Vandevijvere and Swinburn, 2022; Ministry of Education and Social Wellbeing Committee, 2019; O'Brien, 2014; Wynd and O'Brien, 2014), and there is no single, central food strategy (Roy and Mackay, 2023).

The distinct social, health and political contexts led to different programme evolution trajectories. PNAE in Brazil from a centralised federal government programme primarily offering ready-to-eat foods, to a decentralised one with shared management among various actors and the acquisition of food from local family farmers, consequently ensuring local development, fresher food and support for the local food culture strategy. Conversely, in New Zealand, owing to reduced financial resources and a prioritisation of the centralised system, most of the programme's resources remain with just one collective of supplier companies. Although this second version of Ka Ora, Ka Ako has not been evaluated, media reports and public appeals from school principals suggest that this change has led to a decrease in the quality of food offered, and logistical issues have also resulted in difficulties in supplying fresh, safe food (Health Coalition Aotearoa, 2025; Harris, 2025).

In 70 years, Brazil has seen massive success in lifting children out of malnutrition, and food insecurity rates are now lower than New Zealand's. This shift was supported through a decentralised school food programme, with strong civil society engagement, funding shared between federal and local governments, and concerted effort to achieve wider system-level benefits.

The authors posit that these different contexts may bring different levels of urgency and values ascribed to the programmes. It may be that the public emotional response to images of thin,

It may be that the public emotional response to images of thin, starving children is stronger and more urgent than statistics of high food insecurity linked with childhood obesity, which is often perceived as an individual failing, not a failure of society or politics ...

existing in the country (FNDE, 2023).

The 2000s were an important period of strengthening and expansion of the programme, with the universalisation of food for all students in Brazilian public schools and the inclusion of the mandatory purchase of food from family farming, as well as the recognition of the policy as a guarantee of the constitutional Human Right to Adequate Food. In the 2020s, there was an expansion of the amount invested in family farming and stricter rules for the purchase of ultra-processed products.

Ka Ora, Ka Ako began in 2019 as a pilot project, and in 2020 and 2021 underwent a period of expansion and structuring. It was operational until the end of 2024, when a significant budget reduction led to the launch of a new version of the programme. In addition to prioritising a

The two national programmes analysed in this study have distinct trajectories in terms of their history and public policy context. The Brazilian programme started in the context of substantial hunger and undernutrition, and it survived a prolonged period of military dictatorship. However, with the increasing participation of civil society, government policies supporting local farming, and a collective of participating institutions such as CONSEA and CAE, the programme is now strongly institutionalised, making it resilient against future political and commercial threats (Leão and Maluf, 2012; World Food Programme, 2019).

New Zealand's public policy paradigm in recent decades has been marked by a strong neoliberal focus and a personal responsibility narrative which, it has been

starving children is stronger and more urgent than statistics of high food insecurity linked with childhood obesity, which is often perceived as an individual failing, not a failure of society or politics (Jiménez, 2019). Furthermore, the history of neoliberal policies and an individual choice narrative of individualism means that in New Zealand many people perceive school meals as a responsibility of parents rather than the state (Brown, 2018; O'Brien 2014; RNZ, 2025). In addition, because it has few actors involved, the Ka Ora, Ka Ako programme may become vulnerable to political power shifts and compromises the degree of engagement from society and potentially, societal acceptance.

Additionally, the fact that PNAE serves all students, thus making it more visible and well-known, may lead to greater public encouragement and better acceptance of school food as a social investment. Moreover in New Zealand, the targeting of school meals to schools with the greatest number of students 'in need' risks stigmatisation of recipients and a perception of the programme as welfare assistance. The current delivery of Ka Ora, Ka Ako to only 25% of schools has also resulted in a significant number of food-insecure children attending schools not receiving the programme (Gerritsen et al., 2023).

PNAE has been around long enough to have become normalised, and values of supporting children, families and smallholder farmers have become embedded. This mostly occurred after the redemocratisation of the country, and especially during the Lula government's first term and the Zero Hunger initiative. The participation of multiple actors from civil society and government, with institutionalised interconnections, allows the programme to achieve broader societal impacts. However, we note that there has been a lack of formal outcome evaluation, the benefits of the investment being largely implicit.

In contrast, Ka Ora, Ka Ako is a new programme, which found its political window of expansion during the Covid-19 pandemic, but then suffered a drastic contraction under a new government. Ka Ora, Ka Ako is administered solely by the Ministry of Education, without civil society

participation and with minimal input from other ministries, and primarily through centralised distribution. These factors affect the sense of belonging to the programme and undermine its acceptance, as well compromising the ability to attain other systemic benefits, such as increased local employment and strengthening local food systems, with consequent environmental implications (World Food Programme, 2025). Moreover, its values are still highly politically contestable (Ministry of Education, 2019, 2024a, 2024d).

The political right which came to power in New Zealand in 2023 places a high value on low taxes and considers food insecurity and obesity to be the responsibility of

2019 the states and municipalities invested more than twice the value invested federally from FNDE (ÓAÊ, FINEDUCA, 2021). In Ka Ora, Ka Ako version 2, the initial reduced payment per meal was too low and it has since been topped up using various mechanisms, but all from the Ministry of Education (for example, adding to School Lunch Collective budget or extra budget allocated to schools for the implementation, allowing schools to use some of their education funding for the meals) to make the programme viable (Ministry of Education, 2025c).

International studies have shown that school meal programmes provide a strong return across a range of multi-sectoral

The lessons that [Programa Nacional de Alimentação Escolar] can provide are the universality for all students in all public schools achieved at scale with an investment of about 0.1% of GDP; and the integration of communities and civil society being vital for programme resilience.

individuals and families (Ministry of Education, 2024a). This makes the New Zealand programme very fragile. Ka Ora, Ka Ako version 1 was heavily monitored and evaluated to ensure accountability to taxpayers, which has the potential to facilitate continuous improvement towards achieving desired outcomes. However, the lack of permanent funding and political contestability compromises the programme's transformative potential (FAO, 2025b; Vermillion et al., 2021; Vermillion et al., 2022).

Budget allocation is a critical variable in creating viable and sustainable public policies (FAO, 2025b; World Food Programme, 2025). In this regard, the two programmes are located in different economic models and have distinct forms of financing. For PNAE, the executing entities have to provide money to complement the federal budget, and in

outcomes (World Food Programme, 2025). For every dollar spent on school meals, there is an approximate \$9 return across education, health, nutrition and social protection, while up to \$30 per \$1 returns can be unlocked in wider social and economic benefits, with these values being widely variable depending on context (Global Child Nutrition Foundation, 2025; World Food Programme, 2025). In Brazil, for example, for every R\$1.00 invested in purchasing food from family farming through PNAE, the national GDP grows by R\$1.52 in family farming and R\$1.66 in family livestock farming (ÓAÊ, 2025). It was also found that, in addition to improvements in GDP, the programme benefits employability and promotes more equitable economic development (Oliveira et al., 2025).

Normative and legal frameworks serve to guarantee stability for programmes

beyond the decisions of a specific government, making them into state policies (UNICEF, 2025; World Food Programme, 2019). In the PNAE case, the programme evolved progressively until it reached the current conception of law, with a robust legal framework and the participation of civil society. Ka Ora, Ka Ako is still relatively young, in the midst of determining what policy settings will optimise success, but it would be strategic to look to other programmes internationally with recognised success to ensure that changes in the political context do not interfere with the programme's smooth progress.

The lessons that PNAE can provide are the universality for all students in all public schools achieved at scale with an investment of about 0.1% of GDP; and the integration of communities and civil society being vital for programme resilience. This is possible because it is a long-term, decentralised,

democratic programme with social participation to guarantee the human right to adequate food. Ka Ora, Ka Ako version 1 showed that formal evaluations of the initiative could contribute to better policy guidance. Furthermore, this study shows how comparative policy analysis can contribute deeper understanding of programmes and, ultimately, better targeting of actions.

This study has the limitation of the results not being widely generalisable, as other programmes will have their own distinct contexts and challenges. However, its strengths are the depth of the study team's expertise, represented by public health nutritionists, social scientists and education specialists with deep knowledge of both programmes.

Conclusion

This study compared Brazil's National School Feeding Programme (Programa

Nacional de Alimentação Escolar) and Ka Ora, Ka Ako, two programmes at different ends of the spectrum in terms of timelines (an older and more deeply rooted PNAE and the newer Ka Ora, Ka Ako); distinct triggering problems (hunger and undernutrition versus food insecurity and obesity); different levels of social embeddedness (strongly embedded versus contested values); and institutionalisation (a multi-agency and democratised programme versus single-agency management). The authors conclude that, despite these differences, both programmes provide lessons that could support future school meal improvement, in New Zealand, Brazil and internationally.

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References

- Aikman, P.J. and R. Yates-Pahulu (2023) *He Kai Kei Aku Ringa: evaluation of the iwi and hapū social procurement and partnership model, under Ka Ora, Ka Ako | The Healthy School Lunches Programme*, Wellington: Ministry of Education
- Bandoni, D.H., I.C. Ottoni, A.L.B. Amorim and D.S. Canella (2024) 'It is time: free meals at schools for all', *British Journal of Nutrition*, 131 (8), pp.1447–51, <http://doi.org/10.1017/S0007114523002660>
- Bedasso, B. and D. Bundy (2025) 'Global school meals at the next frontier: why economic evidence matters', blog post, 17 September, <https://www.cgdev.org/blog/global-school-meals-next-frontier-why-economic-evidence-matters>
- Brasil (2009) 'Lei nº 11.947, de 16 de junho de 2009', https://www.planalto.gov.br/ccivil_03/_ato2007-2010/2009/lei/l11947.htm
- Brasil (2014) 'Guia alimentar para a população brasileira', 2nd edn, https://bvsms.saude.gov.br/bvs/publicacoes/guia_alimentar_populacao_brasileira_2ed.pdf
- Brasil (2019) 'Medida provisória nº 870, de 1º de janeiro de 2019', https://www.planalto.gov.br/ccivil_03/_ato2019-2022/2019/mpv/mpv870.htm
- Brasil (2023) 'Medida provisória nº 1.154, de 1º de janeiro de 2023', https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2023/Mpv/mpv1154.htm
- Brasil (2025a) 'Lei nº 15.226, de 30 de setembro de 2025', https://www.planalto.gov.br/ccivil_03/_ato2023-2026/2025/lei/L15226.htm
- Brasil (2025b) *III Plano Nacional de Segurança Alimentar e Nutricional (2024–2027)*, Ministério do Desenvolvimento Social, Brasília, https://www.gov.br/mds/pt-br/noticias-e-conteudos/desenvolvimento-social/noticias-desenvolvimento-social/iii-plano-nacional-de-seguranca-alimentar-e-nutricional-e-aprovado/SECF_III_PLANSAN.pdf
- Brown D. (2018) *The Unconventional Career of Muriel Bell*, Dunedin: Otago University Press
- Chote, B., D. Rees, B. Swinburn, P. McKelvie-Sebileau, R. Glassey and D. Tipene-Leach (2022) 'Systems mapping of the New Zealand free and healthy school lunch programme: perspectives from lunch providers', *Nutrients*, 14, 4336, <https://doi.org/10.3390/nu14204336>
- Cohen, J.F.W., S. Verguete, B.B. Giyose and D. Bundy (2023) 'Universal free school meals: the future of school meal programmes?', *Lancet*, 402 (10405), pp.831–3
- D'Souza, E., S. Vandevijvere and B. Swinburn (2022) 'The healthiness of New Zealand school food environments: a national survey', *Australian and New Zealand Journal of Public Health*, 46, pp.325–31, <https://doi.org/10.1111/1753-6405.13210>
- FAO (2025a) 'FAO Hunger Map: interactive platform', <https://www.fao.org/interactive/hunger-map/en/>
- FAO (2025b) 'Transforming food and agriculture through a systems approach', Rome: Food and Agriculture Organization of the United Nations, <https://doi.org/10.4060/cd6071en>
- FNDE (2020a) 'Entendendo o salário-educação', <https://www.gov.br/fnde/pt-br/acao-a-informacao/acoes-e-programas/financiamento/salario-educacao/entendendo-o-salario-educacao>
- FNDE (2020b) 'Resolução nº 06, de 08 de maio de 2020', <https://www.gov.br/fnde/pt-br/acao-a-informacao/legislacao/resolucoes/2020/resolucao-no-6-de-08-de-maio-de-2020/view>
- FNDE (2023) 'History', <https://www.gov.br/fnde/pt-br/acao-a-informacao/acoes-e-programas/programas/pnae/historico>
- FNDE (2025a) 'Brasil celebra 70 anos de políticas públicas de alimentação escolar', Notícias, <https://www.gov.br/fnde/pt-br/assuntos/noticias/brasil-celebra-70-anos-de-politicas-publicas-de-alimentacao-escolar>

- FNDE (2025b) 'Dados físicos e financeiros do PNAE', <https://www.gov.br/fnde/pt-br/aceso-a-informacao/acoes-e-programas/programas/pnae/consultas/pnae-dados-fisicos-e-financeiros-do-pnae>
- FNDE (2025c) 'Resolução nº 03, de 04 de fevereiro de 2025', https://www.gov.br/fnde/pt-br/aceso-a-informacao/legislacao/resolucoes/2025/resolucao-cd_fnde-no-3-de-4-de-fevereiro-de-2025-resolucao-cd_fnde-no-3-de-4-de-fevereiro-de-2025-dou-imprensa-nacional.pdf/view
- Forrestal, S., E. Potamites, J. Guthrie and N. Paxton (2021) 'Associations among food security, school meal participation, and students' diet quality in the first school nutrition and meal cost study', *Nutrition*, 13 (2), <https://www.mdpi.com/2072-6643/13/2/307>
- Garton, K., C. Riddell, P. McKelvie-Sebileau, R. Glassey, D.T. Leach, D. Rees and B. Swinburn (2023) 'Not just a free lunch: a logic model and evidence review for the Ka Ora, Ka Ako | Healthy School Lunch programme', *Policy Quarterly*, 19 (2), pp.75–87
- Gerritsen, S., A. Park, C. Wall, C. Napier, D. Exeter and S. Paine (2023) 'Food insecurity: indicators of food insecurity and access to food assistance in the Growing Up in New Zealand cohort', *Now We Are Twelve* snapshot 3, Growing Up in New Zealand, <https://www.growingup.co.nz/now-we-are-twelve>
- Global Child Nutrition Foundation (2025) 'School meals programs: expanding access through innovative financing to accelerate progress towards the SDGs', <https://gcnf.org/school-meals-programs-expanding-access-through-innovative-financing-to-accelerate-progress/>
- Harris, M. (2025) 'School lunch failures strengthen the case for universal services', *Post*, 21 January, <https://www.thepost.co.nz/nz-news/360630582/school-lunch-failures-strengthen-case-universal-services>
- Health Coalition Aotearoa (2025) 'Ko, ka: kids deserve good kai', <https://www.healthcoalition.org.nz/campaigns/kids-deserve-good-kai/>
- Health Education and Shokuiku Division, Elementary and Secondary, and Consumer Affairs and Shokuiku Division (2023) 'School meals case study: Japan', working paper, London School of Hygiene and Tropical Medicine, doi.org/10.17037/PUBS.04671122
- Institute for Health Metrics and Evaluation (2024) 'GBD results', University of Washington, <https://vizhub.healthdata.org/gbd-results>
- Instituto Brasileiro de Geografia e Estatística (2024) 'PIB cresce 2,9% em 2023 e fecha o ano em R\$ 10,9 trilhões', [https://agenciadenoticias.ibge.gov.br/agencia-sala-de-imprensa/2013-agencia-de-noticias/releases/39303-pib-cresce-2-9-em-2023-e-fecha-o-ano-em-r-10-9-trilhoes#:~:text=O%20PIB%20totalizou%20R\\$%2010,%20C8%25%20de%20202](https://agenciadenoticias.ibge.gov.br/agencia-sala-de-imprensa/2013-agencia-de-noticias/releases/39303-pib-cresce-2-9-em-2023-e-fecha-o-ano-em-r-10-9-trilhoes#:~:text=O%20PIB%20totalizou%20R$%2010,%20C8%25%20de%20202)
- Jiménez, C. (2019) 'Bolsonaro: "Falar que se passa fome no Brasil é uma grande mentira, é um discurso populista"', *El País*, 19 July, https://brasil.elpais.com/brasil/2019/07/19/politica/1563547685_513257.html
- Kuusipalo, H. and M. Manninen (2023) 'School meals case study: Finland', working paper, London School of Hygiene and Tropical Medicine, <https://doi.org/10.17037/PUBS.04671313>
- Leão, M. and R.S. Maluf (2012) *Effective Public Policies and Active Citizenship: Brazil's experience of building a food and nutrition security system*, ABRANDH and Oxfam
- McKerchar, C., C. Lacey, G. Abel and L. Signal (2021) 'Ensuring the right to food for indigenous children: a case study of stakeholder perspectives on policy options to ensure the rights of tamariki Māori to healthy food', *International Journal for Equity in Health*, 20 (67), <https://doi.org/10.1186/s12939-021-01407-4>
- Ministry of Business, Innovation and Employment (2025) 'GDP totals in New Zealand', <https://webrear.mbie.govt.nz/theme/gdp-totals/map/timeseries/2023/new-zealand?accessedvia=new-zealandandareatype=nzandright-transform=absolute>
- Ministry of Education (2021) 'Briefing note: Ka Ora, Ka Ako | Healthy School Lunches programme: progress update', <https://web-assets.education.govt.nz/s3fs-public/2025-03/13.-BN-1268767-Ka-Ora-Ka-Ako-Healthy-School-Lunch-Programme-Progress-Update.pdf?VersionId=IpD.2pXpyPOrMoVtdXJLKde6hhBmTtBk>
- Ministry of Education (2022) 'Nutrition standards for Ka Ora, Ka Ako | Healthy School Lunches programme', <https://kaorakaako.education.govt.nz/nutrition-standards>
- Ministry of Education (2023) 'Business continuity plan (BCP)'
- Ministry of Education (2024a) 'Changing the provision model for the Ka Ora, Ka Ako | Healthy School Lunches programme, and introducing a targeted early childhood food programme', Cabinet paper
- Ministry of Education (2024b) 'Frequently asked questions', [education.govt.nz](https://www.education.govt.nz)
- Ministry of Education (2024c) 'Healthy school lunches: about the programme', <https://www.education.govt.nz/education-professionals/schools-year-0-13/healthy-school-lunches/ka-ora-ka-ako-healthy-school-lunches-about-programme>
- Ministry of Education (2024d) 'Ka Ora, Ka Ako | Healthy School Lunches programme: programme update', <https://kaorakaako.education.govt.nz/working-together/new-model>
- Ministry of Education (2025a) 'Ka Ora, Ka Ako | Healthy School Lunches programme: working together', <https://kaorakaako.education.govt.nz/working-together>
- Ministry of Education (2025b) 'Ka Ora, Ka Ako | Healthy School Lunches programme. agreements overview', 20 October, <https://kaorakaako.education.govt.nz/working-together/about-ka-ora-ka-ako/agreement-overview>
- Ministry of Education (2025c) 'Funding for the Ka Ora, Ka Ako | Healthy School Lunches programme', 15 July, <https://www.education.govt.nz/education-professionals/schools-year-0-13/healthy-school-lunches/funding-healthy-school-lunches-programme>
- Ministry of Education and Social Wellbeing Committee (2019) 'Implementing a free and healthy school lunch prototype for year 1–8 students', Cabinet paper, 22 March, https://web-assets.education.govt.nz/s3fs-public/2025-02/Cabinet-Paper-material_Redacted.pdf?VersionId=U5e5tbSGNboZTC7Od7a41iniOBwWhUX
- Ministry of Health (2003) *Healthy Eating – Healthy Action | Oranga Kai – Oranga Pūmau: a strategic framework*, <https://www.health.govt.nz/system/files/2011-11/heha-strategicframework.pdf>
- Ministry of Health (2024) Annual Data Explorer 2023/24: New Zealand Health Survey, <https://www.health.govt.nz/publications/annual-update-of-key-results-202324-new-zealand-health-survey>

- ÓAÊ (2025) 'Impactos socioeconômicos das compras diretas da agricultura familiar para o Programa Nacional de Alimentação Escolar na economia brasileira', policy brief, Observatório da Alimentação Escolar, https://alimentacaoescolar.org.br/wp-content/uploads/2025/05/POLICYBRIEF_Impactos_Socioeconomicos_Compras_AgriculturaFamiliar_Pnae.pdf
- ÓAÊ and FINEDUCA (2021) 'Nota em defesa de reajustes nos valores per capita do Programa Nacional de Alimentação Escolar', Observatório da Alimentação Escolar e a Associação Nacional de Pesquisa em Financiamento da Educação
- O'Brien, M. (2014) 'Privatizing the right to food: Aotearoa/New Zealand', in G. Richesand and T. Silvasti (eds), *First World Hunger Revisited: food charity or the right to food?*, 2nd edn, Basingstoke: Palgrave Macmillan
- Oliveira, T.D., P.C. Pereda, L.P. Elias and A.C. Duran (2025) 'Socioeconomic effects of the direct procurement from family farming in the Brazilian school feeding program', *Discov Sustain*, <https://doi.org/10.1007/s43621-025-02396-y>
- Peixinho, A.M.L. (2013) 'A trajetória do Programa Nacional de Alimentação Escolar no período de 2003–2010: relato do gestor nacional', *Ciênc Saúde Coletiva*, 18 (4), pp.909–16, <https://doi.org/10.1590/S1413-81232013000400002>
- Penteado, C.C. and I. Fortunato (2015) 'Mídia e políticas públicas: possíveis campos exploratórios', *Revista Brasileira de Ciências Sociais*, 30 (87), <http://dx.doi.org/10.17666/3087129-141/2015>
- Poata-Smith, E. (2013) 'Inequality and Māori', in M. Rashbrooke (ed.), *Inequality: a New Zealand crisis*, Wellington: Bridget Williams Books
- Public Health Advisory Committee (2024) *Rebalancing our Food System*, Wellington: Ministry of Health
- RNZ (2025) 'Christopher Luxon on school lunches: "Go make a Marmite sandwich"', RNZ News, 4 March, <https://www.rnz.co.nz/news/political/543671/christopher-luxon-on-school-lunches-go-make-a-marmite-sandwich>
- Rockström, J., S.H. Thilsted, W.C. Willett, L.J. Gordon, M. Herrero, C.C. Hicks et al. (2025) 'The EAT–Lancet Commission on healthy, sustainable, and just food systems', *Lancet*, 406 (10512), pp.1625–700, [https://doi.org/10.1016/S0140-6736\(25\)01201-2](https://doi.org/10.1016/S0140-6736(25)01201-2)
- Roy, R. and S. Mackay (2023) 'Food policy, nutrition and population health in New Zealand', in D. Ghosh, D. Bogueva and R. Smarta (eds), *Nutrition Science, Marketing Nutrition, Health Claims, and Public Policy*, Academic Press, <https://doi.org/10.1016/B978-0-323-85615-7.00022-7>
- Smith, T.A., B.H. Lin and J. Guthrie (2024) 'School meal nutrition standards reduce disparities across income and race/ethnicity', *American Journal of Preventive Medicine*, 67 (2), pp.249–57, <http://doi.org/10.1016/j.amepre.2024.03.012>
- UNICEF (2025) *Feeding Profit: how food environments are failing children: child nutrition report 2025*, New York: UNICEF
- United Nations Food Systems Coalitions (2025) *UN Food Systems Coalitions of Action Survey 2025: summary report*, <https://www.unfoodsystemshub.org/docs/unfoodsystemslibraries/coalitions/coalitions-2025-survey-summary-report.pdf>
- Vasconcelos, F.A.G. (2005) 'Combate à fome no Brasil: uma análise histórica de Vargas a Lula', *Revista de Nutrição*, 18 (4), pp.439–57, <https://doi.org/10.1590/S1415-52732005000400001>
- Vermillion, P.P., E. Blakie, M. Morris, B. Jarvis-Child and S. Engelbertz (2021) *New Zealand Health School Lunch Pilot | Ka Ora, Ka Ako: interim evaluation*, Ministry of Education
- Vermillion, P.P., B. Jarvis-Child, L. Chu, K. Lennox, N. Kimber, H. Clarke, N. Wang, T. Nguyen Chau and P. Winthrop (2022) *Ka Ora, Ka Ako | New Zealand Healthy School Lunches Programme: impact evaluation*, Ministry of Education
- Walt, G. and L. Gilson (1994) 'Reforming the health sector in developing countries: the central role of policy analysis', *Health Policy and Planning*, 9 (4), pp.353–70, <https://doi.org/10.1093/heapol/9.4.353>
- Walt, G., J. Shiffman, H. Schneider, S.F. Murray, R. Brugha and L. Gilson (2008) 'Doing health policy analysis: methodological and conceptual reflections and challenges', *Health Policy and Planning*, 23 (5), pp.308–17, <https://doi.org/10.1093/heapol/czn024>
- Wang, D., S. Shinde, T. Young and W.W. Fawzi (2021) 'Impacts of school feeding on educational and health outcomes of school-age children and adolescents in low- and middle-income countries: a systematic review and meta-analysis', *Journal of Global Health*, 11 (04051), <http://doi.org/10.7189/jogh.11.04051>
- Watts, C. (2023) *External Evaluation of Fruit in Schools: final report*, Quigley and Watts, <https://www.tewhatauora.govt.nz/assets/For-the-health-sector/Specific-life-stage/child-health/Final-Evaluation-Report-fruit-in-schools-2023.pdf>
- World Food Programme (2019) 'PNAE's legal and policy basis: building a pathway to homegrown school feeding', policy brief, <https://centrodeexcelencia.org.br/en/policy-brief-3-a-base-legal-e-politica-do-pnae-construindo-um-caminho-para-a-alimentacao-escolar-sustentavel/>
- World Food Programme (2025) *State of School Feeding Worldwide 2024*, Rome: World Food Programme, <https://doi.org/10.71958/wfp130772>
- Wynd, D. and M. O'Brien (2014) 'Food in schools: targeting versus the right to food', *New Zealand Medical Journal*, 127 (407), <https://nzmj.org.nz/media/pages/journal/vol-127-no-1407/food-in-schools-targeting-versus-the-right-to-food/a78236f27d-1696473153/food-in-schools-targeting-versus-the-right-to-food.pdf>

Appendix: Summary table of the programme components

	Context	Actors	Content	Process
Brazil (PNAE)	Brazil has a historical context of hunger and malnutrition. The first actions on these issues started in the 1930s; national policies began to be developed in the following decade, and in the 1950s a school lunch programme was established. Following two decades of military dictatorship, in the 2000s the Lula government scaled up efforts to fight hunger in Brazil. The country has progressively accepted the idea of adequate food as a human right, with policies, laws and civil society participation.	<p>People of interest: Josué de Castro, Luiz Inácio Lula da Silva</p> <p>Stakeholders: Presidency of the Republic, Ministry of Education and National Education Development Fund (FNDE), with Collaborating Centers for School Feeding and Nutrition</p> <p>Executors: State secretariats of education, city halls and federal, state, municipal and partner schools</p> <p>Providers: Outsourced companies, family farmers and food suppliers</p> <p>Beneficiaries: All students in public basic education (early childhood education, elementary education, high school, youth and adult education)</p> <p>Civil society: School Feeding Councils, National Council for Food and Nutrition Security and School Feeding Observatory</p>	<p>Objective: Aims to contribute to the growth and biopsychosocial development, learning, academic performance and the formation of healthy eating habits of students, through food and nutritional education and the provision of meals that cover their nutritional needs during the school year.</p> <p>Guidelines and nutrient standards: Menus are prepared by responsible dietitians; menus must meet a certain percentage of the students' daily nutritional needs, as well as meet specifications regarding the types of foods to be provided and their level of processing.</p> <p>Budget: PNAE pays between R\$0.41 and R\$2.56, depending on the length of the school day and the type of school.</p>	<p>Management: Autonomy to decide which format to adopt – centralised, decentralised or school-based management, or semi-decentralised or partially school-based management.</p> <p>Monitoring and evaluation: Monitoring responsibility is shared among various stakeholders, such as schools, the FNDE, civil society represented by the CAE, and federal government oversight and control entities. For evaluation, the monitoring information is compiled by FNDE and made public, allowing external technical analysis and research to verify whether the programme's objectives are achieved or not, but formal evaluations organised by the government are not carried out.</p> <p>Programme evolution: PNAE started in 1955, with a centralised programme characterised by the supply of industrialised products; it evolved into a decentralised (1994), universal programme, with food purchased from local family farmers (2009) and restrictions on the use of ultra-processed foods (2020 and 2025).</p>
New Zealand (Ka Ora, Ka Ako)	There are high rates of childhood obesity and unhealthy dietary patterns. Principles of private enterprise and the free market predominate, with emphasis on individual responsibility for one's own health. However, in recent decades there has been action to reduce social inequalities and develop a wellbeing agenda. Under Jacinda Ardern's government the pilot of the Ka Ora, Ka Ako programme was launched in 2019.	<p>People of interest: Muriel Bell, Jacinda Ardern</p> <p>Stakeholders: Department of the Prime Minister and Cabinet and Ministry of Education</p> <p>Executors: Schools and kura selected to receive funding</p> <p>Providers: Outsourced companies, iwi/hapū partners and food suppliers</p> <p>Beneficiaries: All students at participating schools and kura (eligible schools according to their position in the Ministry of Education's Equity Index)</p> <p>Civil society: Health Coalition Aotearoa act as voluntary external advocates for programme improvement</p>	<p>Objective: In its first iteration, Ka Ora, Ka Ako aimed to reduce food insecurity, improve nutrition and health, reduce barriers to education and improve learning outcomes, and stimulate local employment. Ka Ora, Ka Ako 2 aims to reduce food insecurity by providing a daily nutritious lunch to students at schools and kura in need of the greatest support.</p> <p>Guidelines and nutrient standards: Schools or outsourced companies are responsible for preparing menus and submitting them for analysis by a small team of nutritionists at the Ministry of Education; meals must meet the criteria for the minimum mandatory items, as well as the weights established per portion for each age group. There are restrictions on the use of some foods, with the use of a traffic light system.</p> <p>Budget: Ka Ora, Ka Ako 1 paid between NZ\$5.56 and \$8.29. Ka Ora, Ka Ako 2 pays NZ\$3 for external model schools, with an additional \$0.84 for students aged 9 and older and \$4 for internal model schools.</p>	<p>Management: Initially Ka Ora, Ka Ako schools could choose between external, internal, internal partnership, iwi and hapū, and mixed delivery options. Under Ka Ora, Ka Ako 2, internal models still exist, but the external model serviced by one centralised supplier collective is preferred.</p> <p>Monitoring and evaluation: Schools are responsible for submitting implementation information to the Ministry of Education. The government is responsible for contracting outsourced companies to conduct programme evaluations.</p> <p>Programme evolution: Ka Ora, Ka Ako began in 2019 as a pilot project and was expanded in 2020 and 2021, with diverse objectives and providers. At the end of 2024 there was a significant budget reduction. Ka Ora, Ka Ako 2 received funding in the 2024 Budget to operate until the end of 2026; Cabinet needs to consider the continuity of the programme.</p>